



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Application of: Cheng et al.

CASE NO.: CL2027 US NA

APPLICATION NO.: 10/735,442

GROUP ART UNIT: UNKNOWN

FILED: DECEMBER 12, 2003

EXAMINER: UNKNOWN

FOR: INCREASING CAROTENOID PRODUCTION IN BACTERIA VIA  
CHROMOSOMAL INTEGRATION

**INFORMATION DISCLOSURE STATEMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

In compliance with 37 CFR 1.97 and 1.98, Applicants bring to the attention of the U.S. Patent and Trademark Office information listed on the enclosed PTO/SB/08A and PTO/SB/08B . A copy of the information is also enclosed.

Should any fee be required in connection with the filing of this Information Disclosure Statement, please charge such fee to Deposit Account No. 04-1928 (E. I. du Pont de Nemours and Company).

Respectfully submitted,

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Dated: 3/18/04

Enclosures

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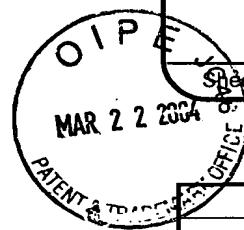
Substitute for form 1449A/PTO

## **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

*(use as many sheets as necessary)*

Sheet 1 of 2

<i><b>Complete if Known</b></i>	
Application Number	10/735,442
Filing Date	December 12, 2003
First Named Inventor	Cheng et al.
Group Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket Number	CL2027 US NA



## **U.S. PATENT DOCUMENTS**

## **FOREIGN PATENT DOCUMENTS**

Examiner Signature		Date Considered	
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**EXAMINER:** Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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Sheet 2 of 2  
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Attorney Docket Number	CL2027 US NA

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### OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
		Armstrong et al., Eubacteria Show Their True Colors: Genetics of Carotenoid Pigment Biosynthesis from Microbes to Plants, J. Bact., Vol. 176, pp. 4795-4802, 1994	
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		Sandmann, G., Genetic manipulation of carotenoids biosynthesis: strategies, problems and achievements., Trends in Plant Science, 6: pp. 14-17, 2001	
		Albrecht et al., Metabolic engineering of the terpenoid biosynthetic pathway of Escherichia coli for production of the carotenoids β-carotene and zeaxanthin, Biotechnol. Lett., Vol. 21, 791-795, 1999	
		Kim et al., Metabolic Engineering of the Nonmevalonate Isopentenyl Diphosphate Synthesis Pathway in Escherichia coli Enhances Lycopene Production, Biotech. Bioeng., 72: 408-415, 2001	
		Mathews et al., Metabolic engineering of carotenoid accumulation in Escherichia coli by modulation of the isoprenoid precursor pool with expression of deoxyxylulose phosphate synthase, Appl. Microbiol. Biotechnol., Vol. 53, pp. 396-400, 2000	
		Harker et al., Expression of prokaryotic 1-deoxy-D-xylulose-5-phosphatases in Escherichia coli increases carotenoid and ubiquinone biosynthesis, FEBS Letter., Vol. 448, pp: 115-119, 1999	
		Kajiwara et al., Expression of an exogenous isopentenyl diphosphate isomerase gene enhances isoprenoid biosynthesis in Escherichia coli, Biochem. J., Vol. 423: pp. 421-426, 1997	
		Wang et al., Engineered Isoprenoid Pathway Enhances Astaxanthin Production in Escherichia coli, Biotechnol. Prog., Vol. 62: pp. 235-241, 1999	

Examiner Signature

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